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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/774,385

02/10/2004

Raghavan Sudhakar

42339-199423

1132

26694 7590 04/09/2007
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EXAMINER

MAI, TAN V

ART UNIT

PAPER NUMBER

2193

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

04/09/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/774,385

Applicant(s)

SUDHAKAR, RAGHAVAN

Examiner

Tan V. Mai

Art Unit

2193

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 February 2007.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
4a) Of the above claim(s) 21-38 is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1,6-8,10-12 and 16-20 is/are rejected.
7) ☒ Claim(s) 2-5,9 and 13-15 is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

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1. Applicant's election without traverse of Group I, claims 1-20, in Paper dated 2/5/07 is acknowledged.

2. The abstract of the disclosure is objected to because the abstract should include the technical disclosure of the invention as claimed.

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 18-20 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The claims recite a method for performing a mathematical function.

"[t]o satisfy section 101 requirements, the claim must be for a practical application of the Sec. 101 judicial exception, which can be identified in various ways:

- . The claimed invention "transforms" an article or physical object to a different state or thing.
- . The claimed invention otherwise produces a useful, concrete and tangible result,..."

See "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility" OG Date: 22 November 2005.

Since there is no physical transform to establish a practical application, a useful, concrete and tangible result appears to be lacking. Therefore, claims 11-20 are directed to a non-statutory process.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 6-8, 10-12 and 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hong.

As per independent claim 1, Hong discloses, e.g., see Fig. 1, the invention substantially as claimed, including: an output of element (141), immediate register (195), multiply unit (150) and output(s) of elements (142, 143) which are considered the claimed [output of] first register, second register, multiplier and [output of] third register, respectively. It is noted that Hong does not specifically detail the claimed **"first selection logic** coupled to said first register and said third register to select register contents to be loaded into said first register, the first selection logic to select one of the contents of said first register and the contents of said third register based on at least one of a function selection signal, a most significant bit of said third register contents, and a least significant bit of a quantity not stored in any of said first, second, and third registers"; however, Hong's **selection means** (element 146, or element 147) should have "a single bit" signal for selecting the desired input for the multiply unit (150). Therefore, Hong's **selection means** meets the claimed **"first selection logic ... based on at least one of a function selection signal, a most significant bit of said third register contents, and a least significant bit of a quantity** not stored in any of said first, second, and third registers". It would have been obvious

to a person having ordinary skill in the art at the time the invention was made to design the claimed invention according to Hong's teachings because the device is a multiplication capable of receiving an alternating input as claimed.

As per dependent claims 6 and 8, the detail features are obvious to a person having ordinary skill in the art.

As per dependent claim 7, Hong does show the claimed second selection logic. Hong's **selection means**, element 146, or element 147, is considered the claimed first and second selection logics.

Due to the similarity of claims 10-12 and 16-20 to claims 1 and 6-8, they are rejected under a similar rationale.

7. Claims 1, 6-8, 10-12 and 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sogo.

As per independent claim 1, Sogo discloses, e.g., see Fig. 8, the invention substantially as claimed, including: a delay element (25), a delay element (27), multiplier (11) and internal register "A" which are considered the claimed first register, second register, multiplier and third register, respectively. It is noted that Sogo does not specifically detail the claimed

"first selection logic coupled to said first register and said third register to select register contents to be loaded into said first register, the first selection logic to select one of the contents of said first register and the contents of said third register based on at least one of a

*function selection signal, a most significant bit of said third register contents, and a least significant bit of a quantity not stored in any of said first, second, and third registers"; however, Hong's **selection means** (element 26, or element 28) should have "a single bit" signal for selecting the desired input for the multiply unit (150). Therefore, Sogo's **selection means** meets the claimed "first selection logic ... *based on at least one of a function selection signal, a most significant bit of said third register contents, and a least significant bit of a quantity not stored in any of said first, second, and third registers*". It would have been obvious to a person having ordinary skill in the art at the time the invention was made to design the claimed invention according to Hong's teachings because the device is a multiplication capable of receiving an alternating input as claimed.*

As per dependent claims 6 and 8, the detail features are obvious to a person having ordinary skill in the art.

As per dependent claim 7, Sogo does show the claimed second selection logic. Sogo's **selection means**, element 26, or element 28, is considered the claimed first and second selection logics.

Due to the similarity of claims 10-12 and 16-20 to claims 1 and 6-8, they are rejected under a similar rationale.

8. Claims 2-5, 9 and 13-15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Cited references are art of interest.

Reference E, Sudo et al, Fig. 3 shows a multiplier (18) coupled to two buffer memories (16 & 17).

Reference F, Takano, e.g., Fig. 9 shows a multiplier (125) coupled to RAM (131, ROM (132) via first / second selectors (133, 134).

9. The following is an examiner's statement of reasons for allowance: the recorded references do NOT teach or suggest:

(1). the novel "fourth register coupled to third register and first selection logic" as recited in dependent claim 2. Similar language is used in dependent claim 13; and

(2). the novel "said first selection logic uses one of said most significant bit of said third register and said least significant bit of said quantity based on said function selection signal" as recited in dependent claim 9.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tan V. Mai whose telephone number is (571) 272-3726.

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The examiner can normally be reached on Mon-Wed and Fri. from 9:30am to 2:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An, can be reached on (571) 272-3756. The fax phone number for the organization where this application or proceeding is assigned is:

Official (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-2100.



Tan V. Mai
Primary Examiner